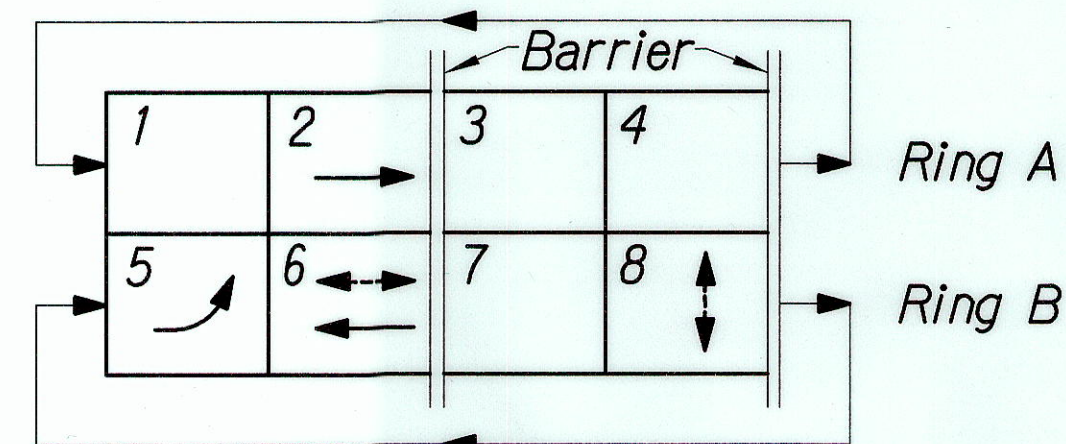


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(26)	2002	C.016	30

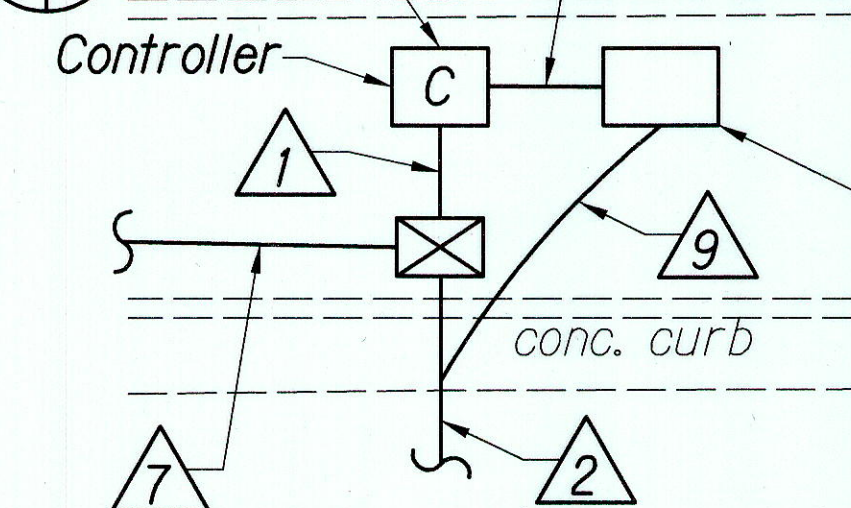


NEW PHASE DIAGRAM

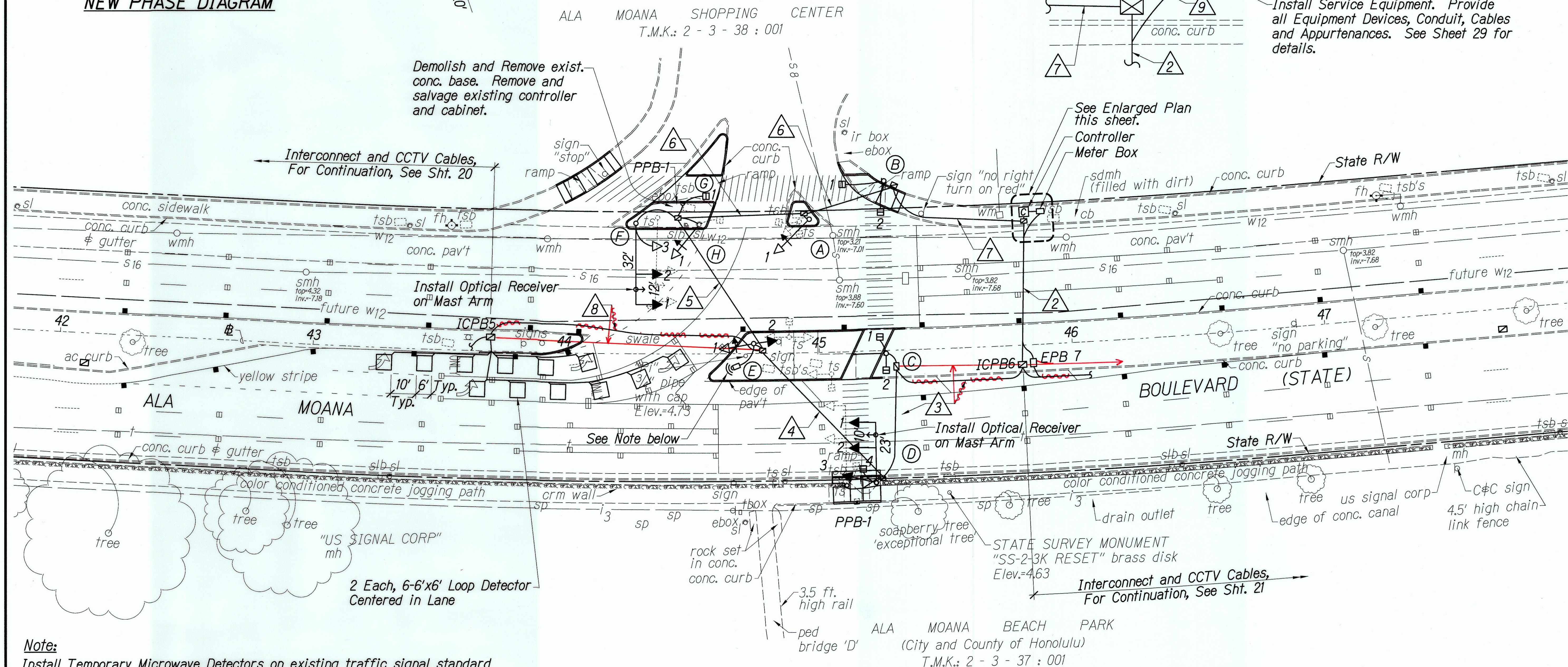
True North
Scale: 1" = 20'

Install Controller Assembly (Model 170) and Auxiliary Equipment including Optical Preemption Module and Model 332A Cabinet on New Conc. Base. See

2/16/28 2/16/30



Install Service Equipment. Provide all Equipment Devices, Conduit, Cables and Appurtenances. See Sheet 29 for details.



Note:

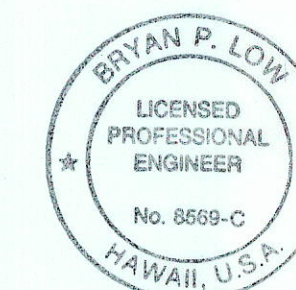
Install Temporary Microwave Detectors on existing traffic signal standard or mast arms. Install No. 16, 4 Conductor Cable in existing conduits from detector to controller. Relocate detectors to New Pole as required. The cost of the cable shall be incidental to the cost of the microwave detector. Install detectors for the left turn lanes into Ala Moana Shopping Center from eastbound Ala Moana Blvd.

TRAFFIC SIGNAL PLAN-ENTRANCE

Scale: 1"=20'

SURVEY PLOTTED BY	DATE
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NOTE BOOK	

7/12/02	Revised Location of PPB-1 and Signal Standard "D". Revise Type B Box to Type A Box and Delete PB in Park R/W. Revised Curb Ramp and Revised Condition
DATE	REVISION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SHIMABUKURO, KENDO & YOSHIZAKI, INC.
1126 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN-ENTRANCE
Ala Moana Blvd. Sta. 42+00 to 47+50
Ala Moana Boulevard
Traffic Signal Modernization
Federal-Aid Project No. NH-092-1(26)
Scale: 1"=20' Date: Aug. 14, 2002
SHEET No. 1 OF 2 SHEETS

AS-BUILT

C.O. 16

CONDUIT & CABLE SCHEDULE

Description	PVC Conduits	Quantity & Type of Cable
1	7-2"	1 - Type 1, Ground Wire 1 - Type 1, Ground Wire 7 - Type 2 2 - Type 3 2 - Type 7 1 - Fiberoptic 1 - Spare
2	6-2" 1-3"	1 - Type 1, Ground Wire 1 - Type 2 1 - Type 3 1 - Power 1 - Type 7 1 - Fiberoptic 1 - Spare
3	4-2"	1 - Type 1, Ground Wire 1 - Type 2 1 - Type 7 1 - Spare
4	3-2"	1 - Type 1, Ground Wire 2 - Spare
5	5-2"	1 - Type 1, Ground Wire 4 - Type 2 1 - Type 3 1 - Fiberoptic 1 - Spare
6	6-2"	1 - Type 1, Ground Wire 5 - Type 2 1 - Type 3 1 - Type 7 1 - Fiberoptic 1 - Spare
7	6-2"	1 - Type 1, Ground Wire 6 - Type 2 1 - Type 3 1 - Type 7 1 - Fiberoptic 1 - Spare
8	4-2"	4 - Type 2 1 - Type 3 1 - Fiberoptic 1 - Spare
9	1-3"	1 - Power
10	1-2"	1 - Type 6

DESCRIPTION OF TRAFFIC SIGNAL

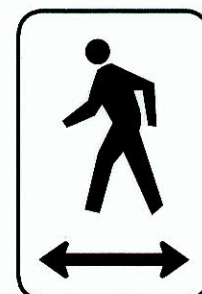
Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces, CCTV & Optical Receivers
A	I-10	1	Slipfitter, One-Way	R Y ←
B	I-8	1 2	Slipfitter, Two-Way Slipfitter, Two-Way	H - M H - M
C	I-8	1 2	Slipfitter, Two-Way Slipfitter, Two-Way	H - M H - M
D	II-23	1 2 3 4	Mast Arm, One-Way Mast Arm, One-Way Pole Bracket, One-Way Pole Bracket, One-Way Mast Arm, (Hor.)	R Y ↑ R Y ↑ R Y ↑ H - M Optical
E	I-10	1 2	Slipfitter, Two-Way Slipfitter, Two-Way	R Y ← R Y ↑
F	II-32	1 2 3	Mast Arm, One-Way Mast Arm, One-Way Pole Bracket, One-Way Mast Arm, (Hor.)	R Y ↑ R Y ↑ R Y G Optical
G	I-8	1	Slipfitter, One-Way	H - M
H	St. Light (Exist.)	1	Pole Bracket, One-Way	R Y ←

CABLE NOTES:

- Type 1 Signal Loop Cable:
Stranded, No. 14, 26 Conductors
- Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable: Stranded, No. 14, 2 Conductors
- Type 3 Interconnect Cable:
Solid No. 19, 12 Pairs
- Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5
- Type 5 Signal Drop Cable:
Stranded, No. 14, 4 Conductors
- Type 6 Service Cable:
Solid, No. 6, 3 Conductors
- Type 7 Optical Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground
- Type 8 Hazard Identification Beacon Cable:
Solid, No. 12, 3 Conductors
- Type 9 Highway Lighting: 3-#8, 1-#8 Ground

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(26)	2002	C.017	30

PEDESTRIAN PUSH BUTTON SCHEDULE



R10-4B
(Sign Varies
w/Direction)

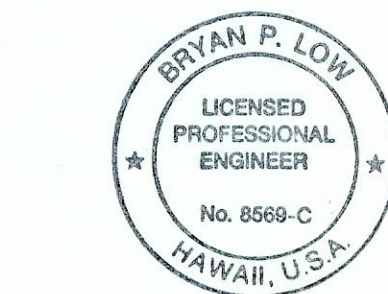
POLE or PPB	SIGNS
ⓑ	(→) R10-4B (R) (←) R10-4B (L)
ⓒ	(↔) R10-4B (L-R)
PPB-1	(→) R10-4B (R) (←) R10-4B (L)
ⓖ	(←) R10-4B (L)

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD SCHEDULE				
	12" RYG TRAFFIC SIGNAL HEAD	12" RY ↑ TRAFFIC SIGNAL HEAD	12" RY ← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	F-3	D-1 D-2 D-3 E-2 F-1 F-2	A-1 E-1 H-1	B-1 B-2 C-1 C-2 D-4 G-1

DATE _____
DESIGNED BY _____
CHECKED BY _____
NOTED BY _____
DATE _____
DESIGNED BY _____
CHECKED BY _____
NOTED BY _____

7/12/02	Revised Conduit Cable Schedule
DATE	REVISION



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
SHIMABUKURO, KADO & YOSHIZAKI, INC.
1226 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN-ENTRANCE

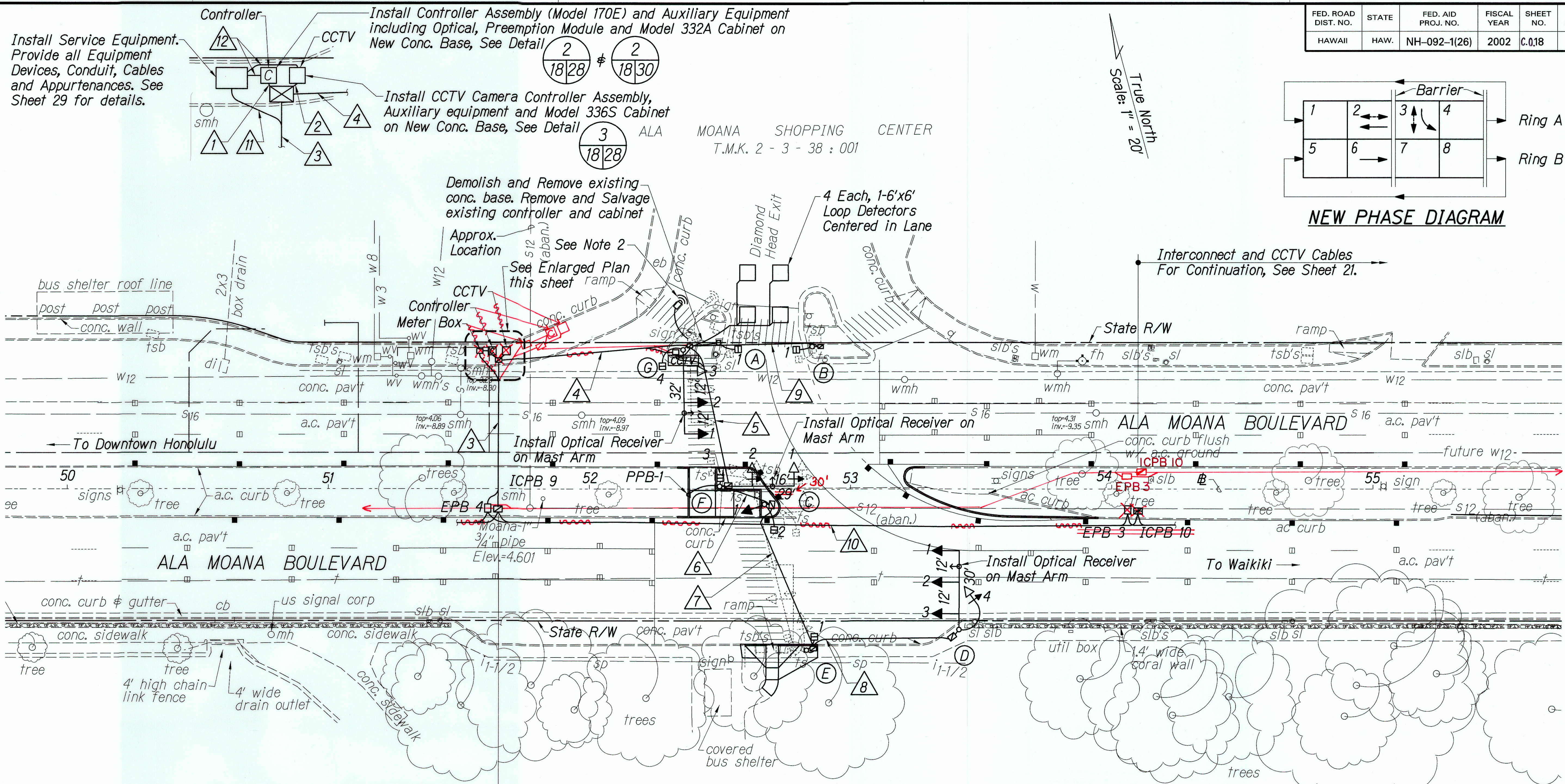
Ala Moana Blvd. @ Sta. 42+00 to 47+50

Ala Moana Boulevard
Traffic Signal Modernization
Federal-Aid Project No. NH-092-1(26)

Scale: _____ Date: Aug. 14, 2002

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(26)	2002	C.018	30



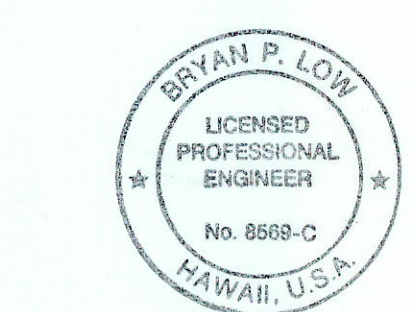
Notes:

- For "Conduit and Cable Schedule" and "List of Materials", See Sheet 19.
- Install Temporary Microwave Detectors on existing traffic signal standards or mast arms. Install No. 16, 4 Conductor Cable in existing conduits from detector to controller. Relocate detectors to New Pole as required. The cost of the cable shall be incidental to the cost of the microwave detector. Install detectors for the exit from Ala Moana Center.

TRAFFIC SIGNAL PLAN-EXIT
Scale: 1"=20'

ALA MOANA BEACH PARK
(City and County of Honolulu)
T.M.K.: 2 - 3 - 37 : 001

SURVEY PLANNED BY	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DATE	



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OR UNDER MY SUPERVISION
SHIMABOKU, ENDO & YOSHIKAWA, INC.
426 12TH AVENUE
HONOLULU, HAWAII 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC SIGNAL PLAN-EXIT
Ala Moana Blvd. # Sta. 49+70 to 55+80
Ala Moana Boulevard
Traffic Signal Modernization
Federal-Aid Project No. NH-092-1(26)
Scale: 1"=20' Date: Aug. 14, 2002
SHEET No. 1 OF 2 SHEETS

7/12/02	Revised Curb Ramp and Relocated STD. "E"
DATE	REVISION

AS-BUILT

C.O. 18

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(26)	2002	0.019	30

CONDUIT & CABLE SCHEDULE

Description	PVC Conduits	Quantity & Type of Cable
1	6-2"	1 - Type 1, Ground Wire 5 - Type 2 1 - Type 3 1 - Type 3 3 - Type 7 1 - Spare
2	5-2"	2 - Fiberoptic 1 - Video Coaxial 4 - No. 22 Control 3 - No. 14 SVT Power 1 - Spare
3	4-2" 1-3"	1 - Type 3 1 - Type 3 2 - Fiberoptic 1 - Power 1 - Spare
4	7-2"	1 - Type 1, Ground Wire 3 - Type 2 3 - Type 7 1 - Video Coaxial 4 - No. 22 Control 3 - No. 14 SVT Power 1 - Spare
5	4-2"	1 - Type 1, Ground Wire 1 - Type 2 2 - Type 7 1 - Spare
6	4-2"	1 - Type 1, Ground Wire 1 - Type 2 1 - Type 7 1 - Spare
7	4-2"	1 - Type 1, Ground Wire 1 - Type 2 1 - Type 7 1 - Spare
8	2-2"	1 - Type 1, Ground Wire 1 - Type 7
9	3-2"	1 - Type 1, Ground Wire 1 - Type 2 1 - Spare
10	3-2" 1-3" 1-3"	1 - Type 3 1 - Fiberoptic 1 - Power 1 - Power 1 - Spare
11	2-3" 1-3"	1 - Power 1 - Power
12	1-2"	1 - Type 6

DESCRIPTION OF TRAFFIC SIGNAL

Pole Letter	Standard Type	Signal Head No.	Mounting Type	Signal Faces, CCTV and Optical Receivers
A	I-8	1	Slipfitter, One-Way	H - M
B	I-8	1	Slipfitter, One-Way	H - M
C	I-10	1 2	Slipfitter, One-Way Pole Bracket, One-Way	R Y ↑ H - M
D	II-30	1 2 3 4	Mast Arm, One-Way Mast Arm, One-Way Mast Arm, One-Way Pole Bracket, One-Way Mast Arm (Hor.)	R Y ↑ R Y ↑ R Y ↑ R Y ← Optical
E	I-8	1	Slipfitter, One-Way	H - M
F	II-30	1 2 3	Mast Arm, One-Way Mast Arm, One-Way Pole Bracket, One-Way Mast Arm (Hor.)	R Y ← R Y ← H - M Optical
G	II-32	1 2 3 4	Mast Arm, One-Way Mast Arm, One-Way Mast Arm, One-Way Pole Bracket, One-Way Mast Arm (Hor.) Mast Arm (Hor.)	R Y ↑ R Y ↑ R Y G H - M CCTV Optical

CABLE NOTES:

- Type 1 Signal Loop Cable:
Stranded, No. 14, 26 Conductors
- Type 2 Detector Lead-In Cable and Pedestrian Push Button Circuit Cable: Stranded, No. 14, 2 Conductors
- Type 3 Interconnect Cable:
Solid No. 19, 12 Pairs
- Type 4 Loop Sensor Cable:
Solid No. 12, Single Conductor to IMSA SPEC 51-5
- Type 5 Signal Drop Cable:
Stranded, No. 14, 4 Conductors
- Type 6 Service Cable:
Solid, No. 6, 3 Conductors
- Type 7 Optical Cable:
Solid, No. 20, 3 Conductors
No. 20, 1 Ground
- Type 8 Hazard Identification Beacon Cable:
Solid, No. 12, 3 Conductors
- Type 9 Highway Lighting: 3-#8, 1-#8 Ground

PEDESTRIAN PUSH BUTTON SCHEDULE



R10-4B
(Sign Varies
w/Direction)

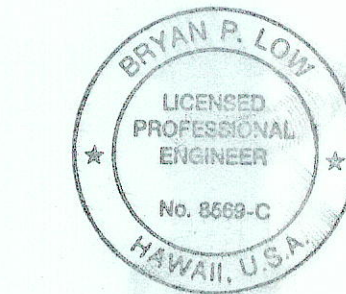
POLE or PPB	SIGNS
(A)	(→) R10-4B (R) (←) R10-4B (L)
(B)	(→) R10-4B (R)
PPB-1	(→) R10-4B (R)
(C)	(→) R10-4B (R)
(E)	(←) R10-4B (L)

TRAFFIC SIGNAL HEAD SCHEDULE

TRAFFIC SIGNAL HEAD SCHEDULE				
	12" RY G TRAFFIC SIGNAL HEAD	12" RY ↑ TRAFFIC SIGNAL HEAD	12" RY ← TRAFFIC SIGNAL HEAD	PEDESTRIAN SIGNAL HEAD
POLE LETTER AND SIGNAL HEAD NUMBER	G-3	C-1 D-1 D-2 D-3 G-1 G-2	D-4 F-1 F-2	A-1 B-1 C-2 E-1 F-3 G-4

DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN NOTE BOOK No. _____

7/12/02	Revised Conduit Cable Schedule
DATE	REVISION



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
B.P. Low
SEIMAPUKU, ENDO & YOSHIZAKI, INC.
1125 12TH Avenue
Honolulu, Hawaii 96816

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN-EXIT

Ala Moana Blvd. @ Sta. 49+70 to 55+80

Ala Moana Boulevard
Traffic Signal Modernization
Federal-Aid Project No. NH-092-1(26)

Date: Aug. 14, 2002

SHEET No. 2 OF 2 SHEETS

AS-BUILT

C.O. 19